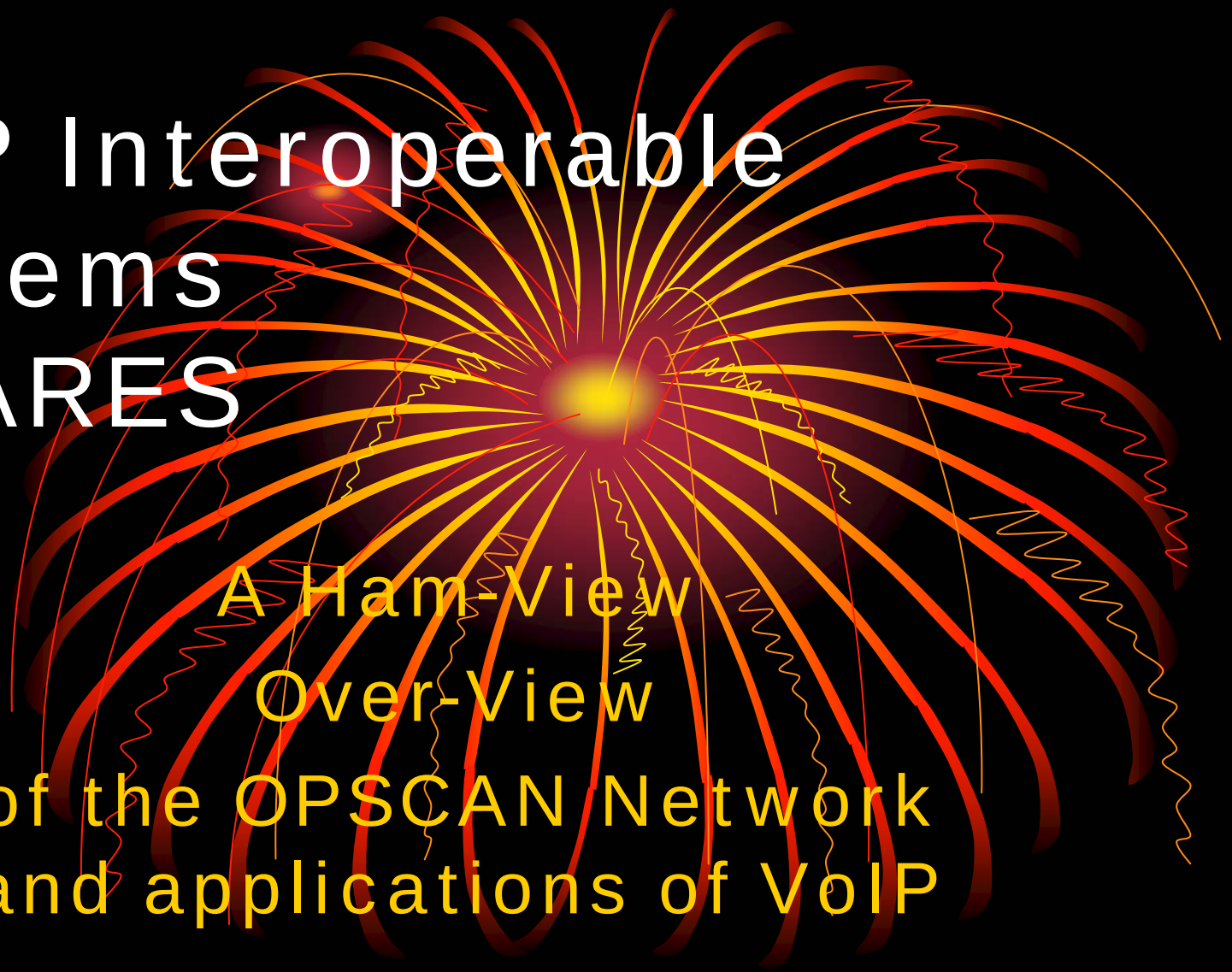


VoIP Interoperable Systems for ARES

A Ham-View
Over-View
of the OPSCAN Network and applications of VoIP

Dave Zehrung, AA7L

OPSCAN

OPSCAN is: Olympic Public Safety Communications Alliance Network

OPSCAN

Interoperability: A term promoted by the Department of Homeland Security (DHS) that applies to direct communications, primarily between first responders, that have different types of radio systems.

OPSCAN

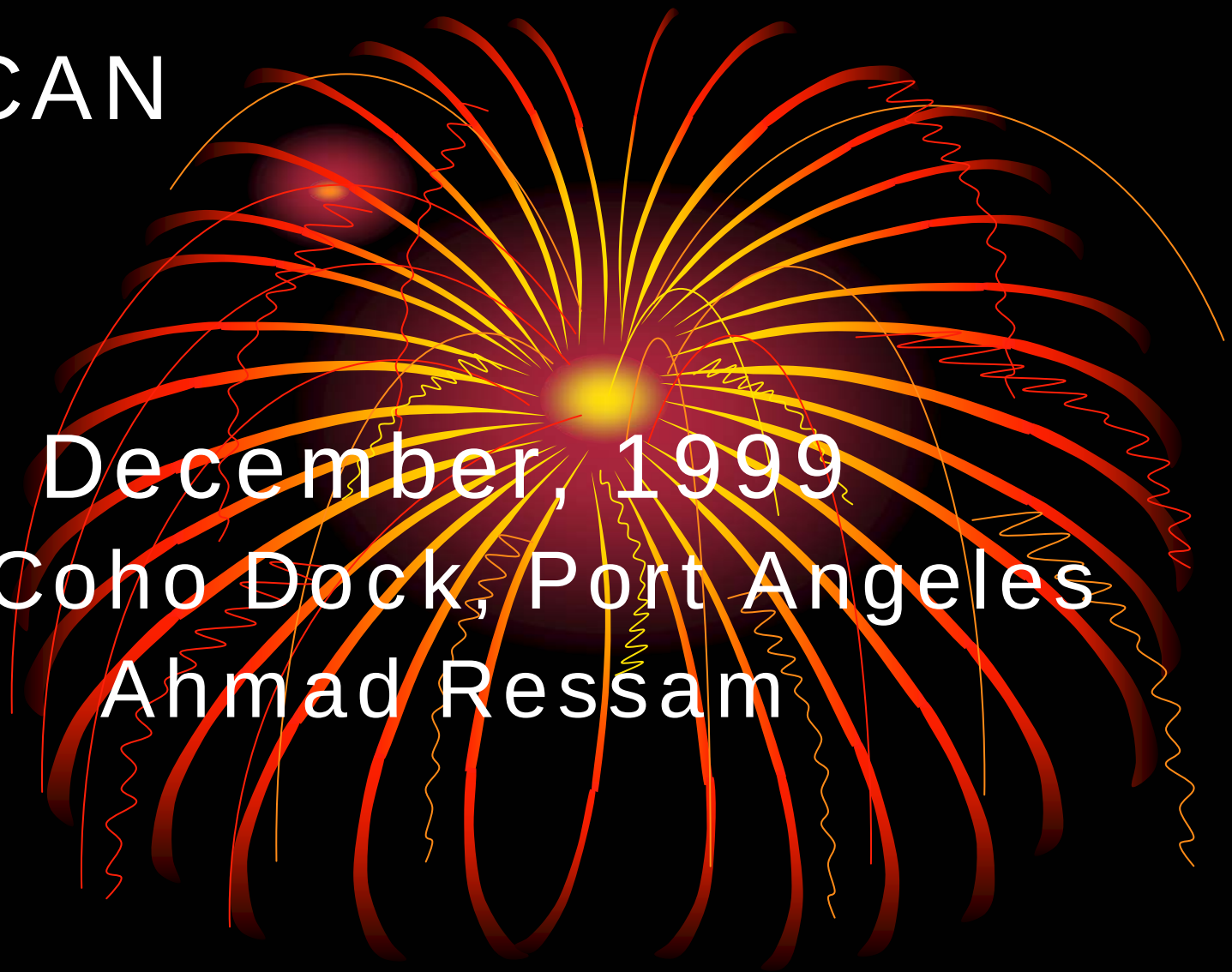
December, 1999

OPSCAN

December, 1999

M V Coho Dock, Port Angeles

OPSCAN



December, 1999

M V Coho Dock, Port Angeles

Ahmad Ressam

OPSCAN

December, 1999
M V Coho Dock, Port Angeles
Ahmad Ressam
Dynamite in Car Trunk

OPSCAN

December, 1999
M V Coho Dock, Port Angeles
Ahmad Ressam
Dynamite in Car Trunk
20 minute foot chase

OPSCAN

December, 1999

M V Coho Dock, Port Angeles

Ahmad Ressam

Dynamite in Car Trunk

20 minute foot chase

No communications

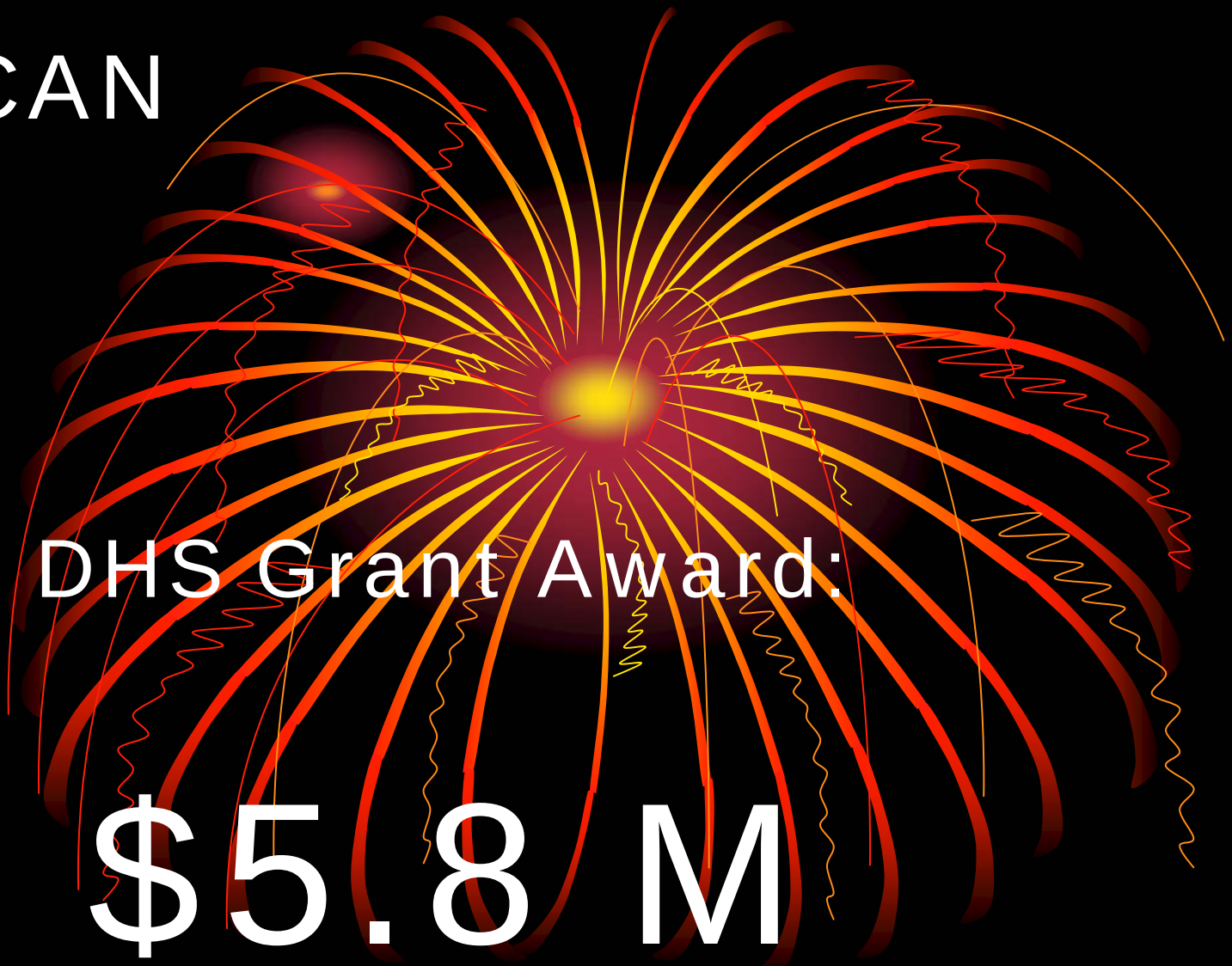
OPSCAN

No Interoperable Communications

OPSCAN

Turn to Homeland Security: Grant Application

OPSCAN



DHS Grant Award:

$5.8 M

OPSCAN

Purpose:

Interoperability for Peninsula

Model of Technology Application for rest of USA

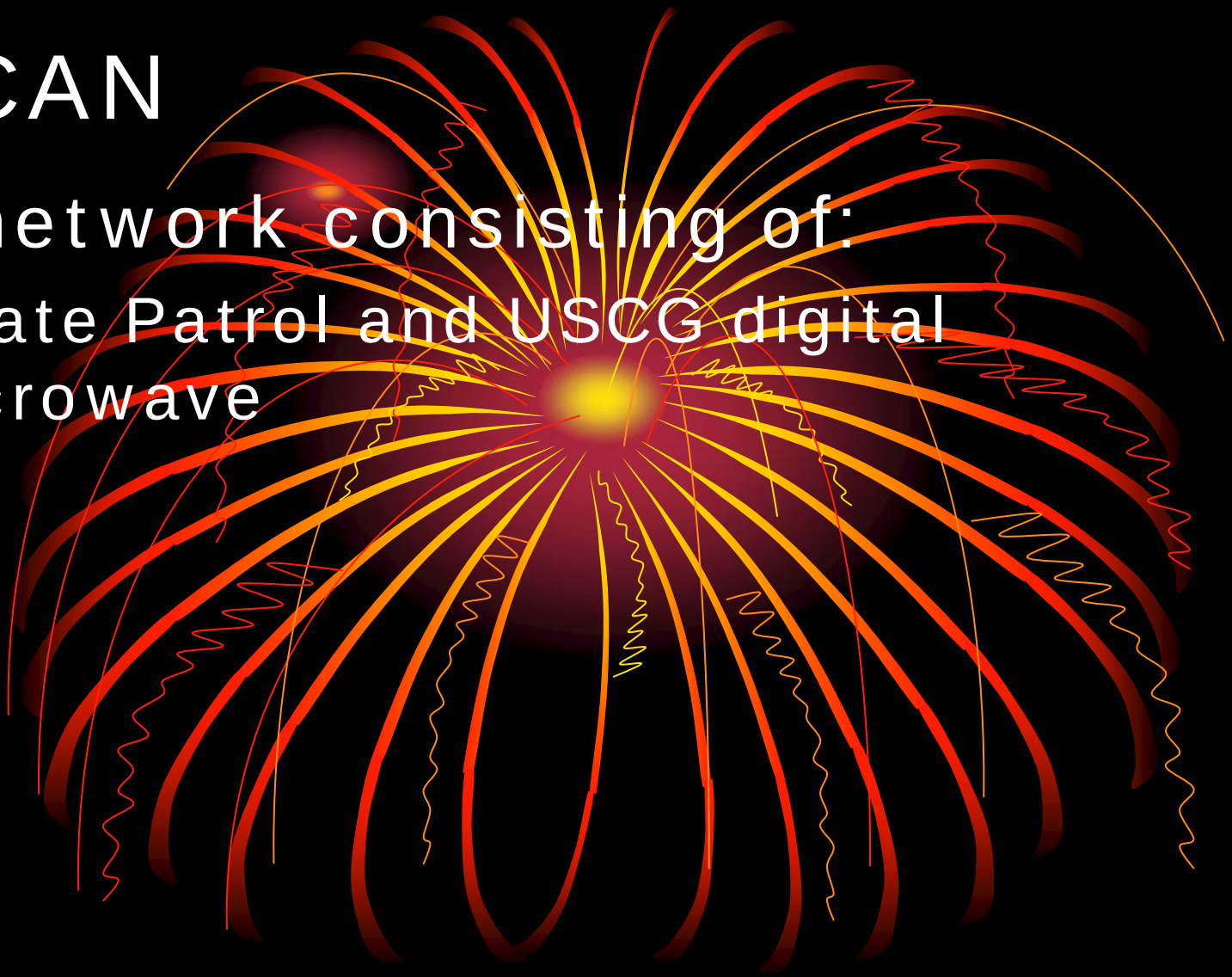
OPSCAN

A network consisting of:

OPSCAN

A network consisting of:

- State Patrol and USCG digital microwave



OPSCAN

A network consisting of:

- State Patrol and USCG digital microwave
- Local service microwave spurs

OPSCAN

A network consisting of:

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OPSCAN

A network consisting of:

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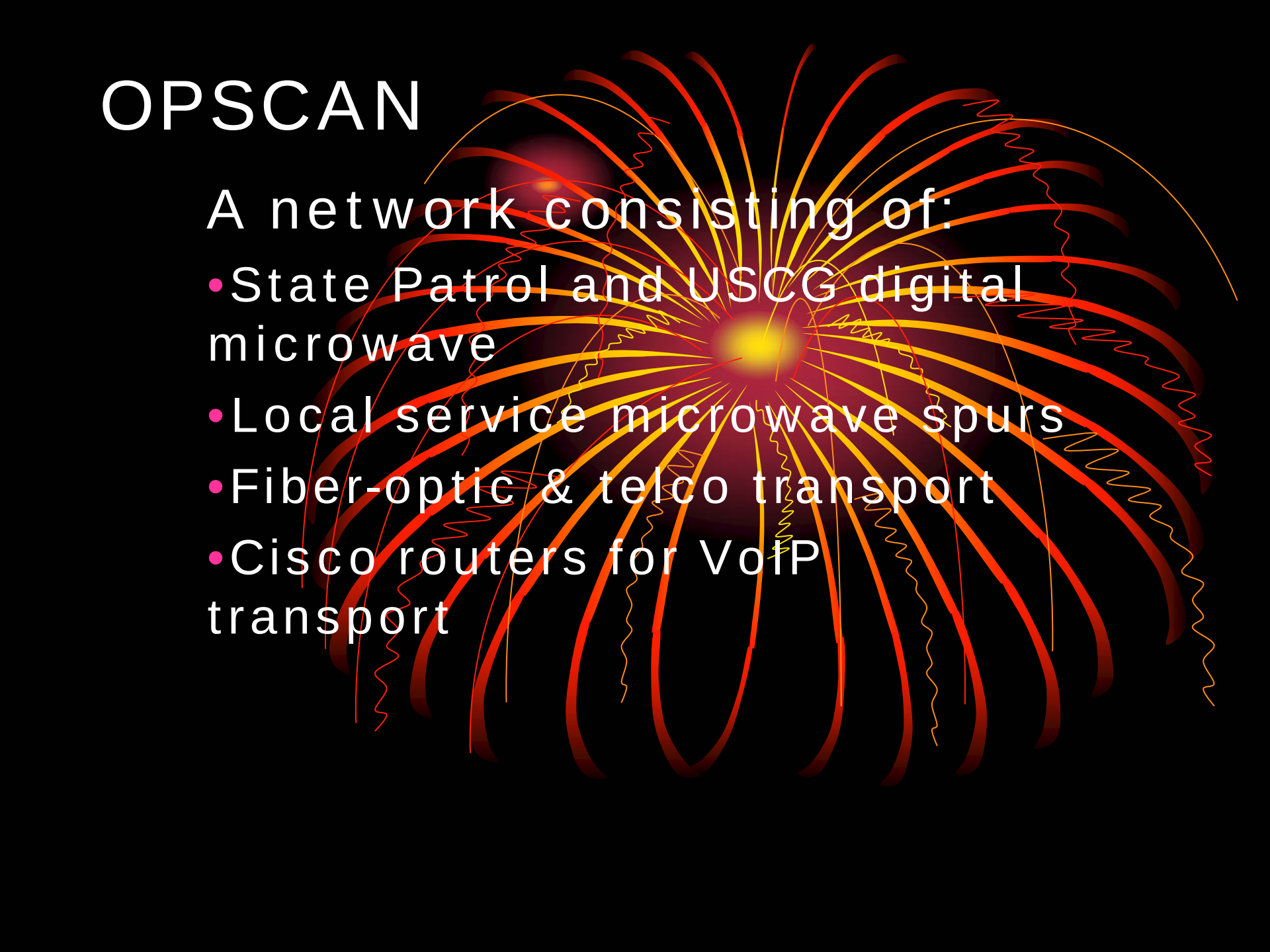
- Fiber-optic & telco transport
- Cisco routers for VoIP transport

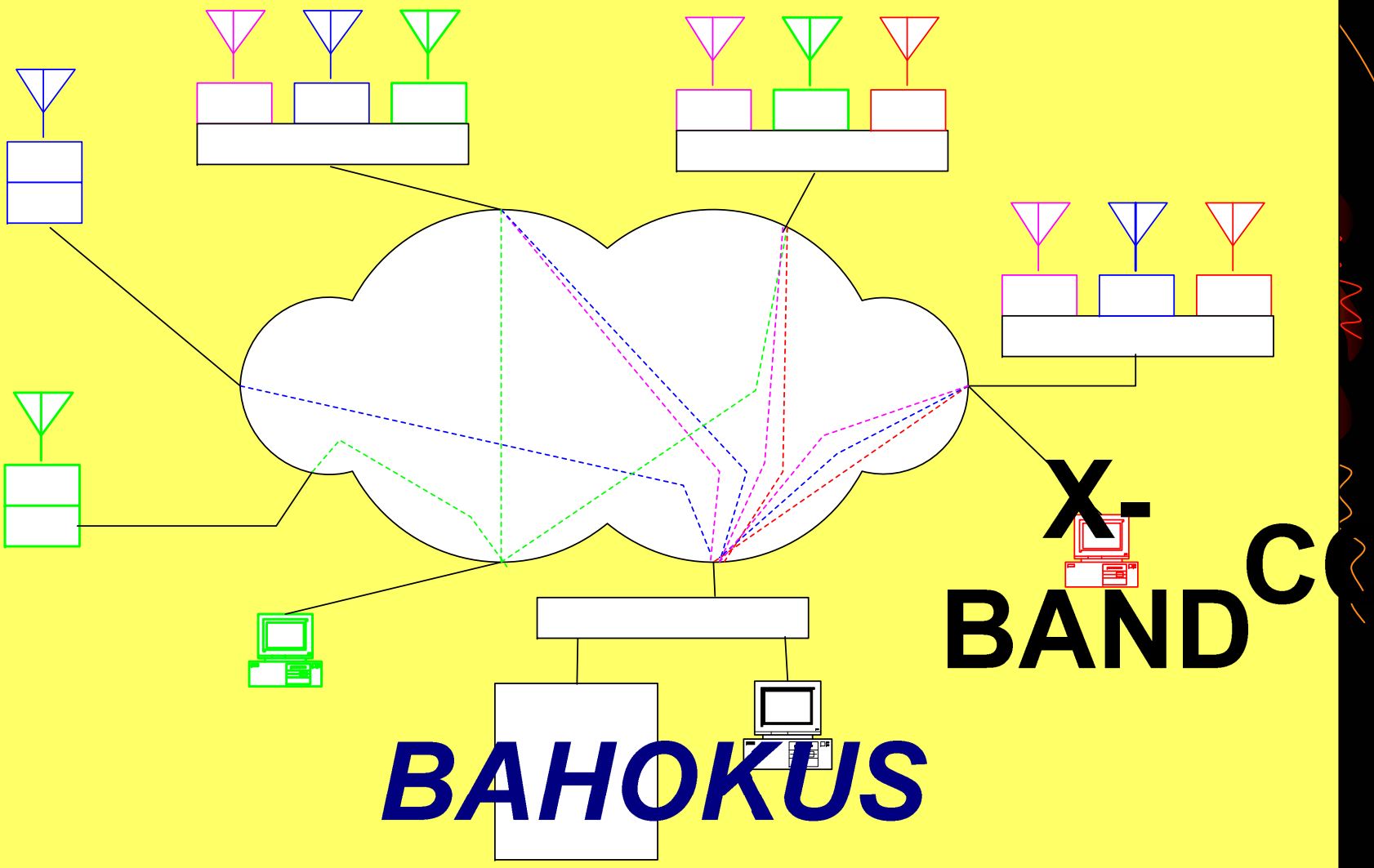


OPSCAN

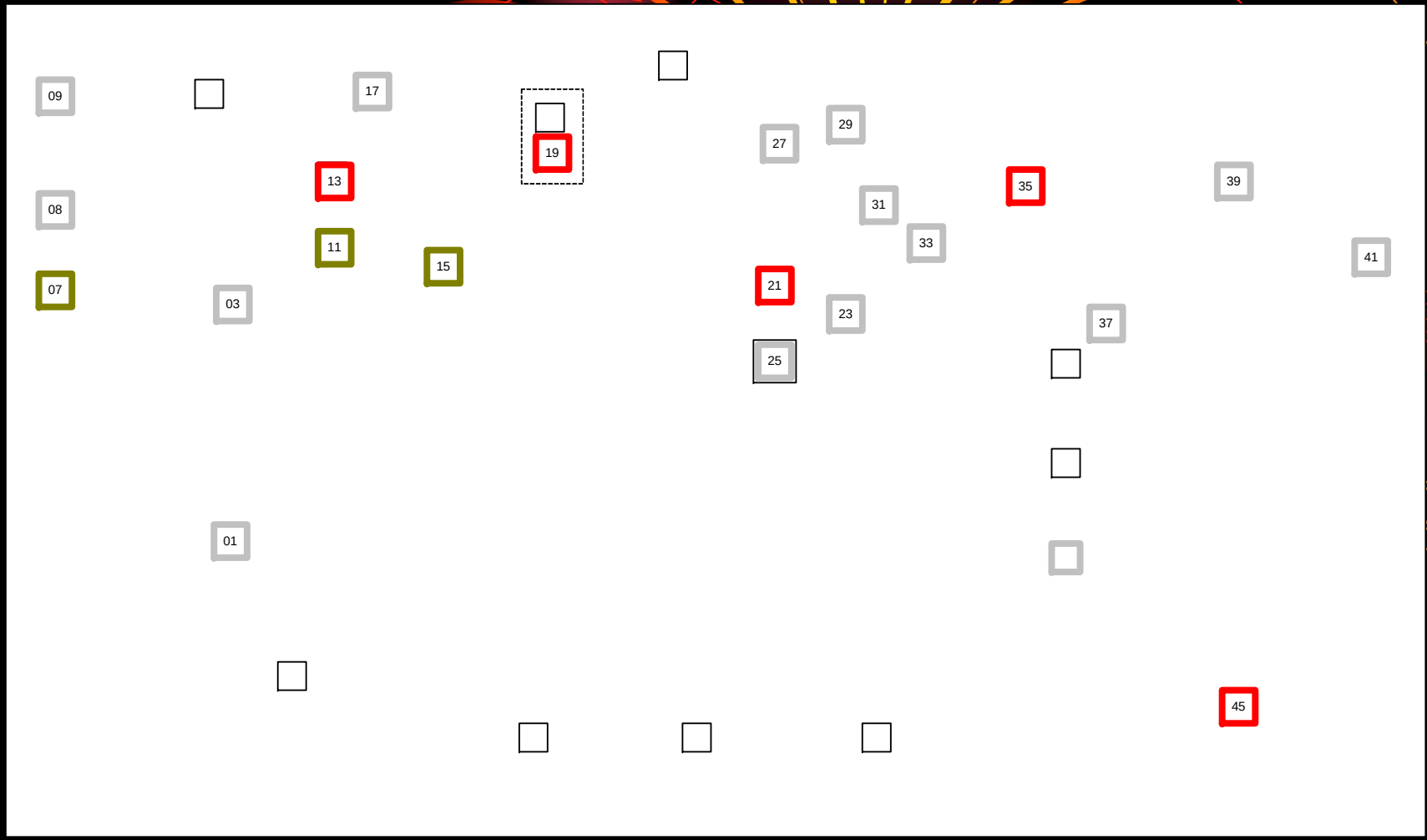
A network consisting of:

- State Patrol and USCG digital microwave
- Local service microwave spurs
- Fiber-optic & telco transport
- Cisco routers for VoIP transport
- Media Server software by Twisted Pair Communications

OPSCAN

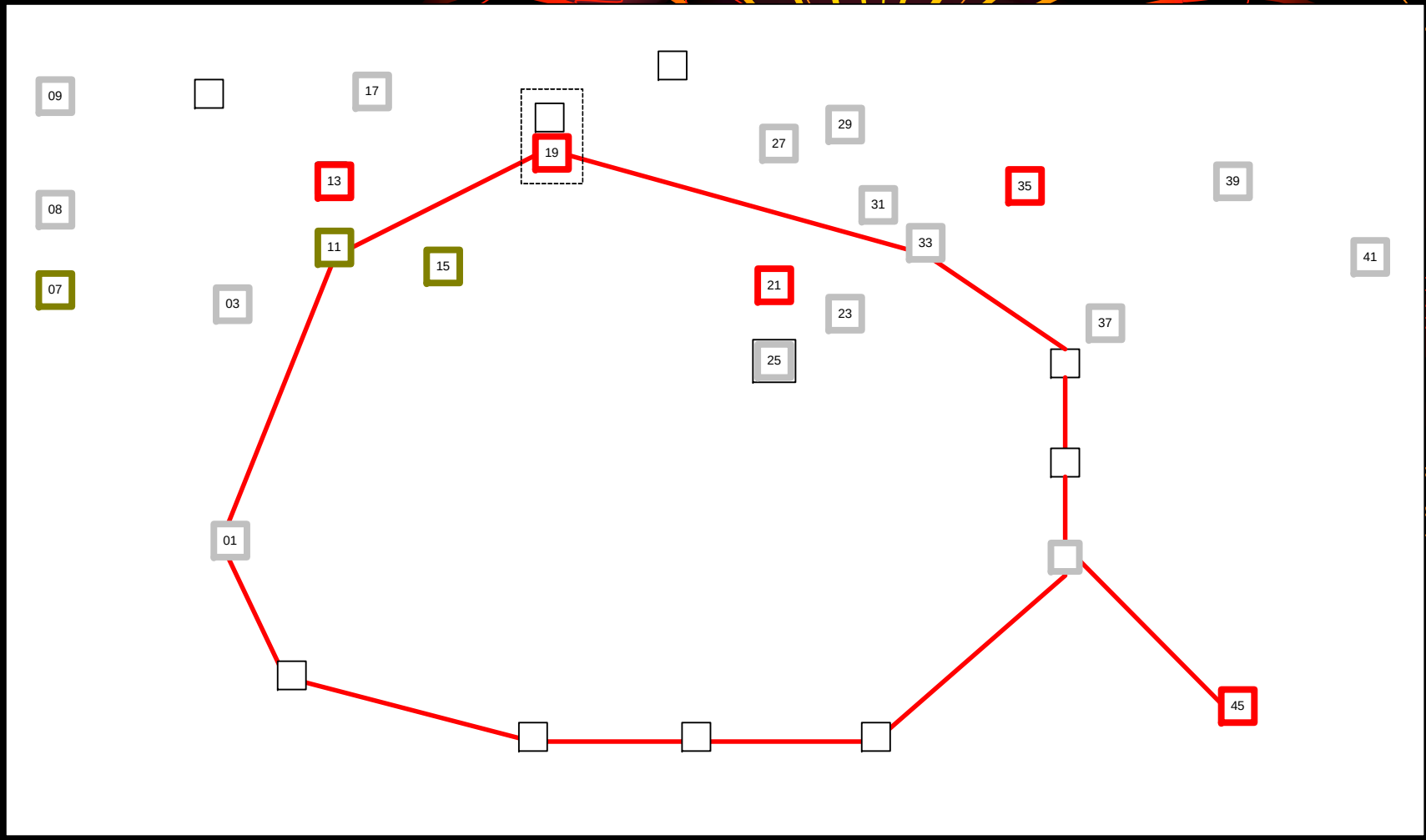


OPSCAN



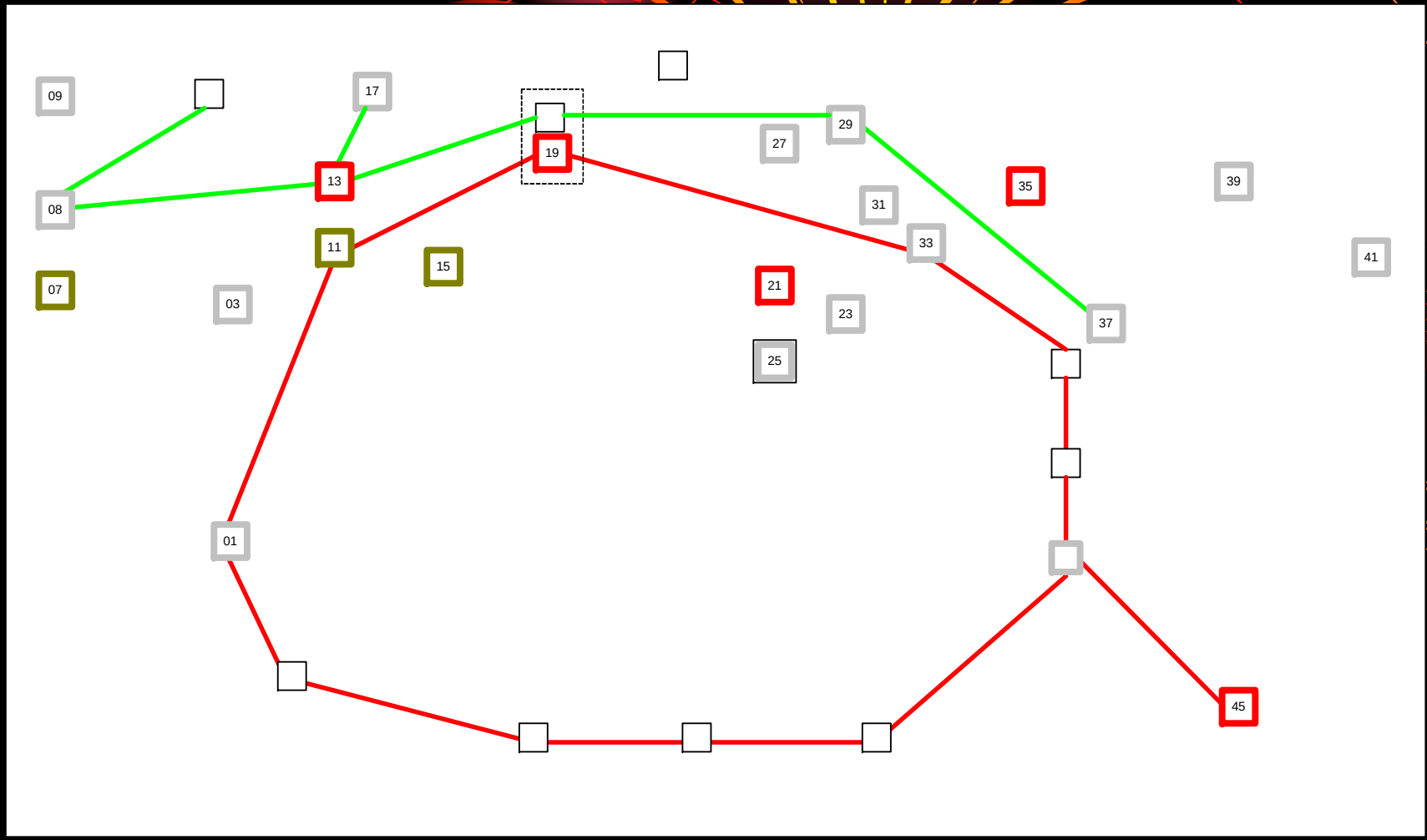
OPSCAN

WSP Microwave



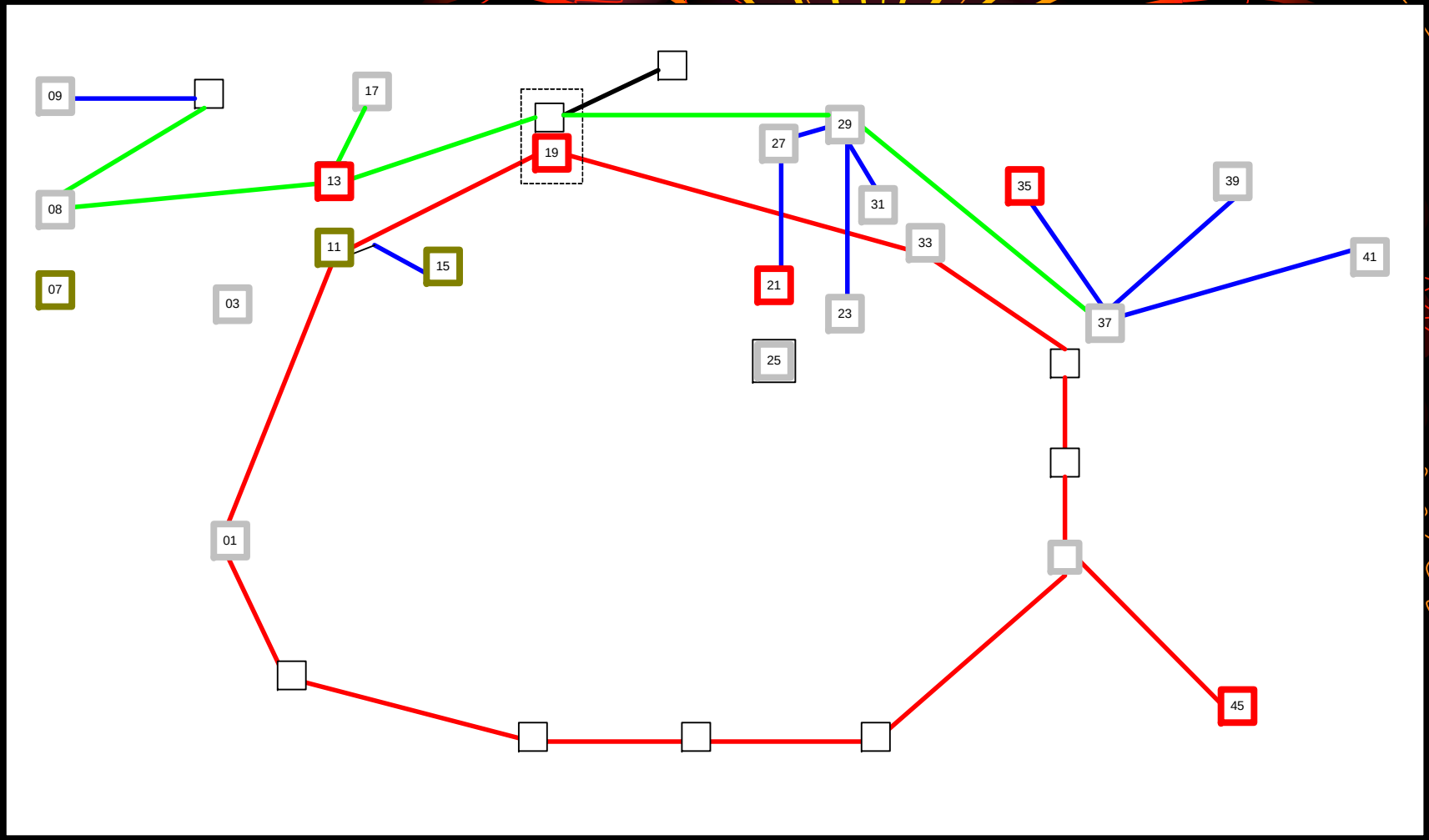
OPSCAN

plus USCG Microwave



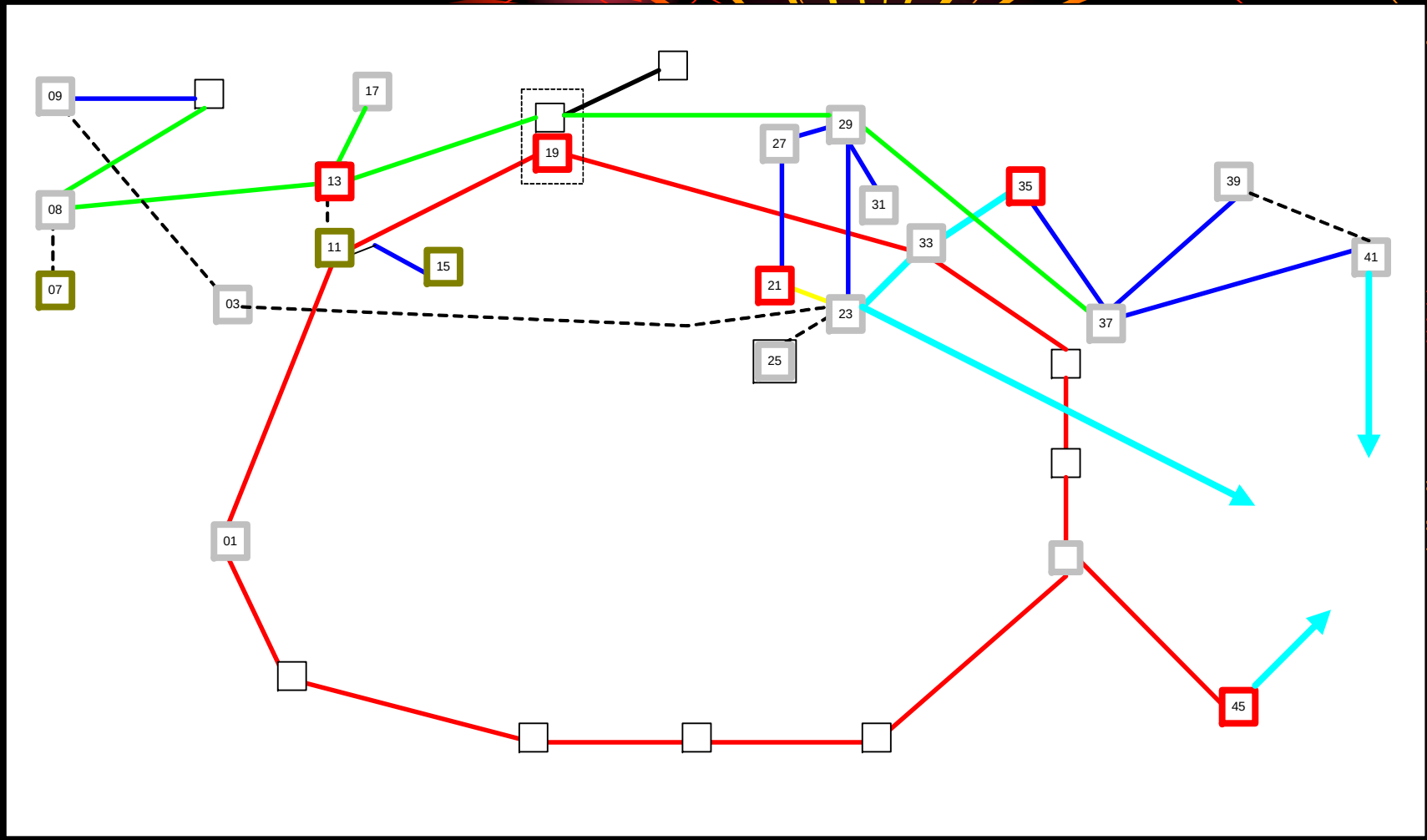
OPSCAN

plus Unique OPSCAN uW Spurs

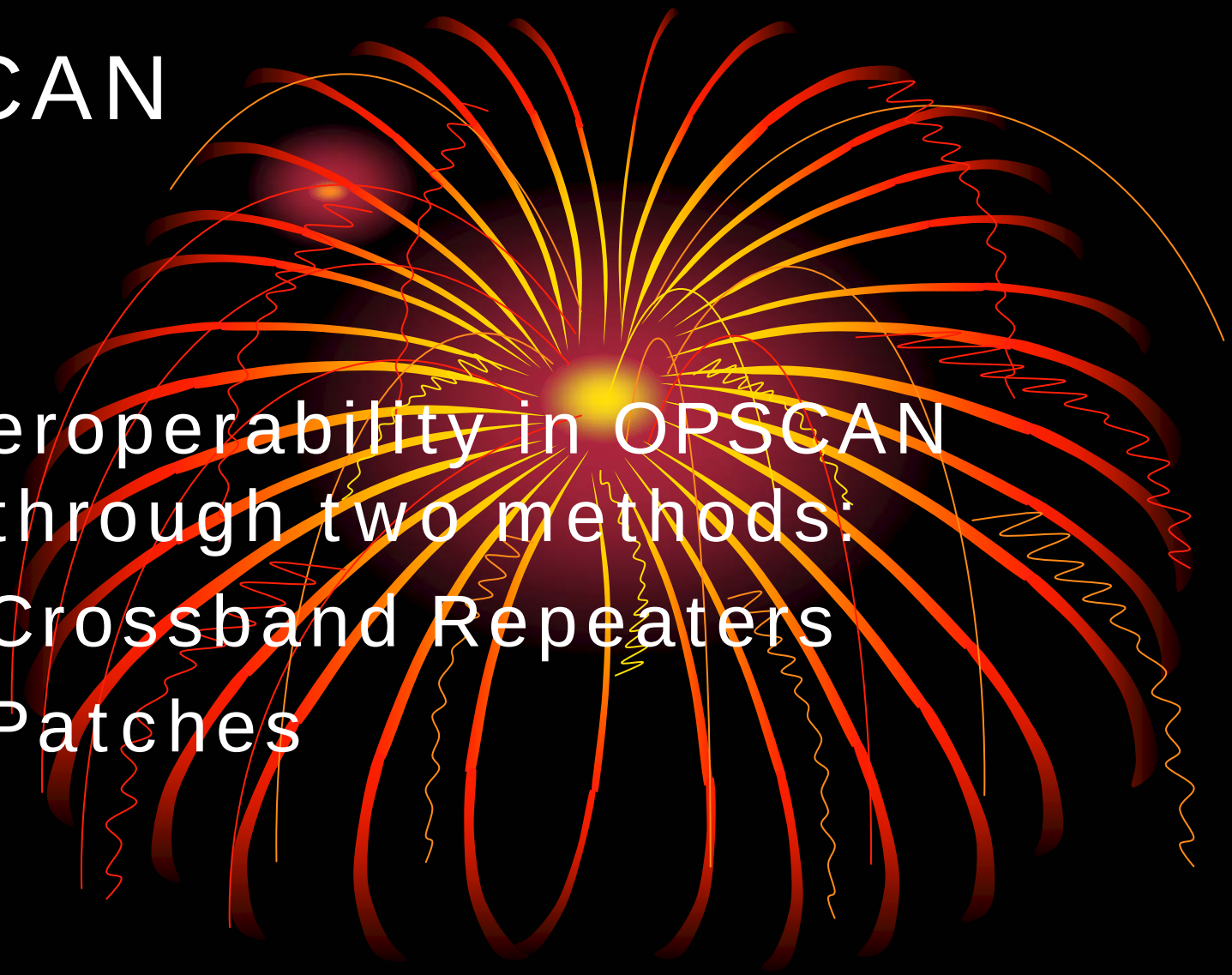


OPSCAN

plus Telco Lines & NOANet Fiber

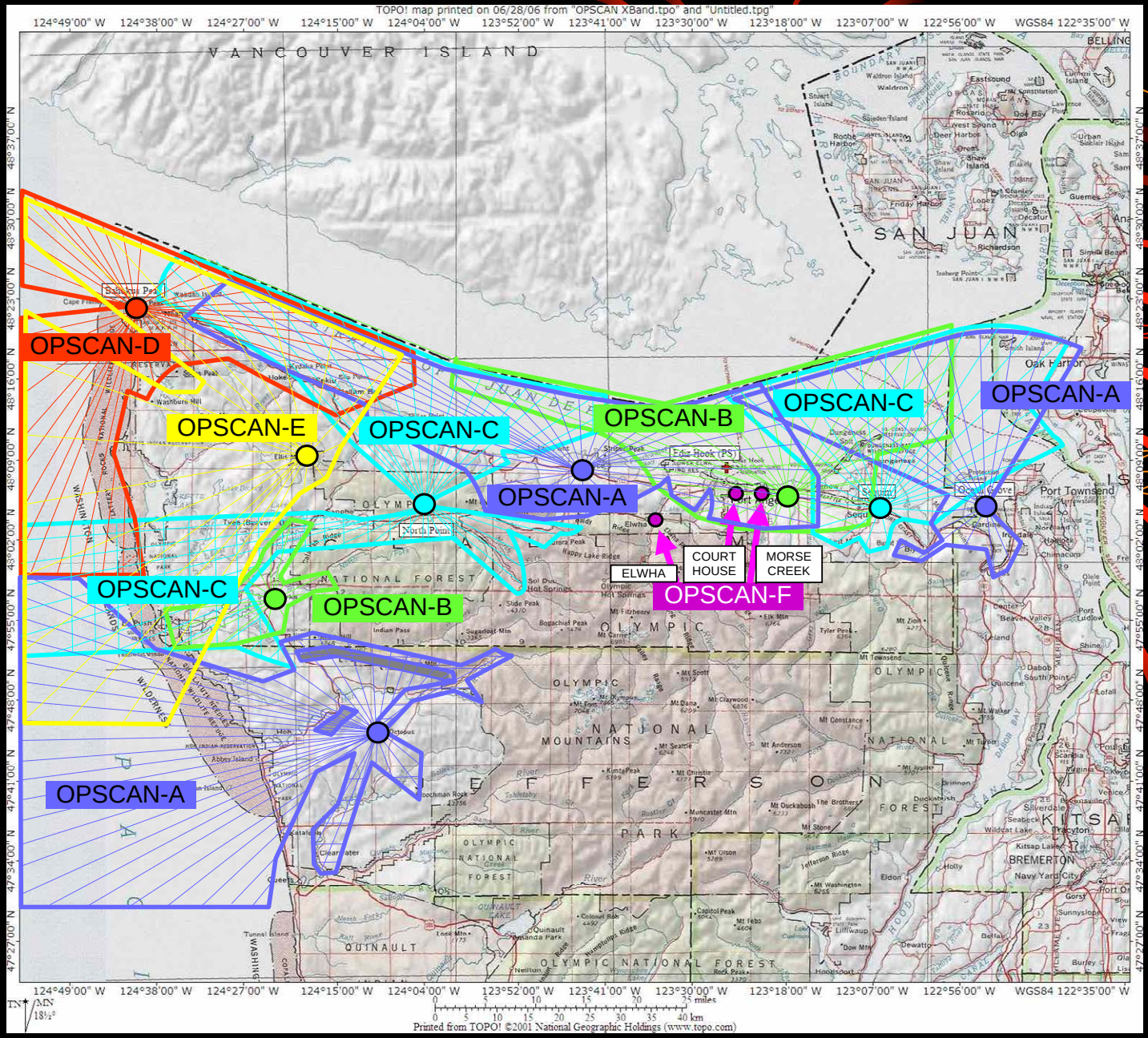


OPSCAN



Interoperability in OPSCAN through two methods:

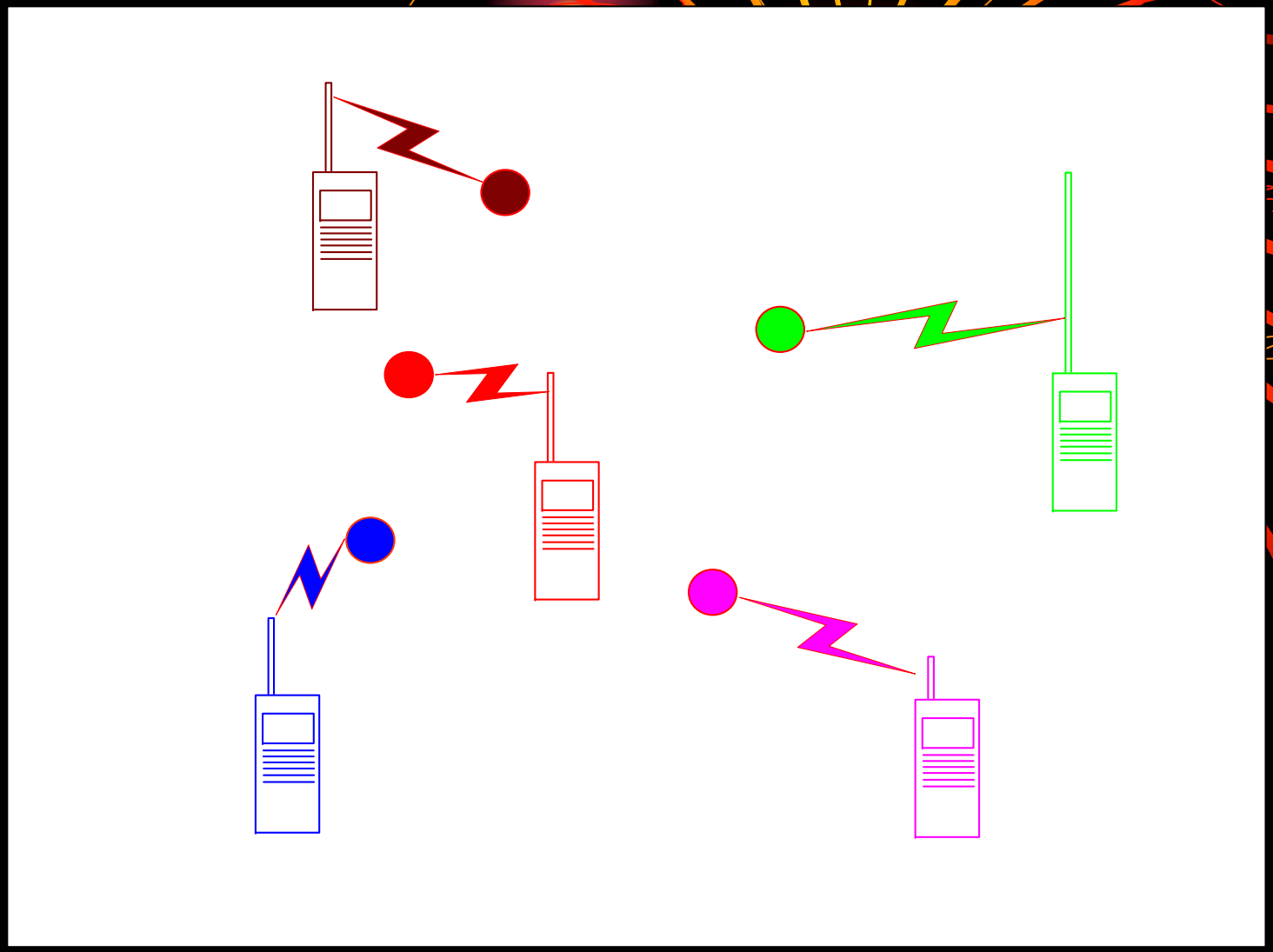
1. Crossband Repeaters
2. Patches


TOPO! map printed on 06/28/06 from "OPSCAN XBand.tpo" and "Untitled.tpg"
124°49'00" W 124°38'00" W 124°27'00" W 124°15'00" W 124°04'00" W 123°52'00" W 123°41'00" W 123°30'00" W 123°18'00" W 123°07'00" W 122°56'00" W WGS84 122°35'00" W
48°37'00" N
48°30'00" N
48°23'00" N
48°16'00" N
48°09'00" N
48°02'00" N
47°55'00" N
47°48'00" N
47°41'00" N
47°34'00" N
47°27'00" N
VANCOUVER ISLAND
SAN JUAN
OPSCAN-D
OPSCAN-E
OPSCAN-C
OPSCAN-B
OPSCAN-A
OPSCAN-C
OPSCAN-A
OPSCAN-C
OPSCAN-B
OPSCAN-A
OPSCAN-F
ELWHA
COURT HOUSE
MORSE CREEK
Port Townsend
Oak Harbor
BREMERTON
KITSAP
OLYMPIC NATIONAL FOREST
OLYMPIC NATIONAL MOUNTAINS
QUINAULT
JUAN DE FUCA STRAIT
0 5 10 15 20 25 30 35 40 km
0 5 10 15 20 25 30 35 miles
Printed from TOPO! ©2001 National Geographic Holdings (www.topo.com)

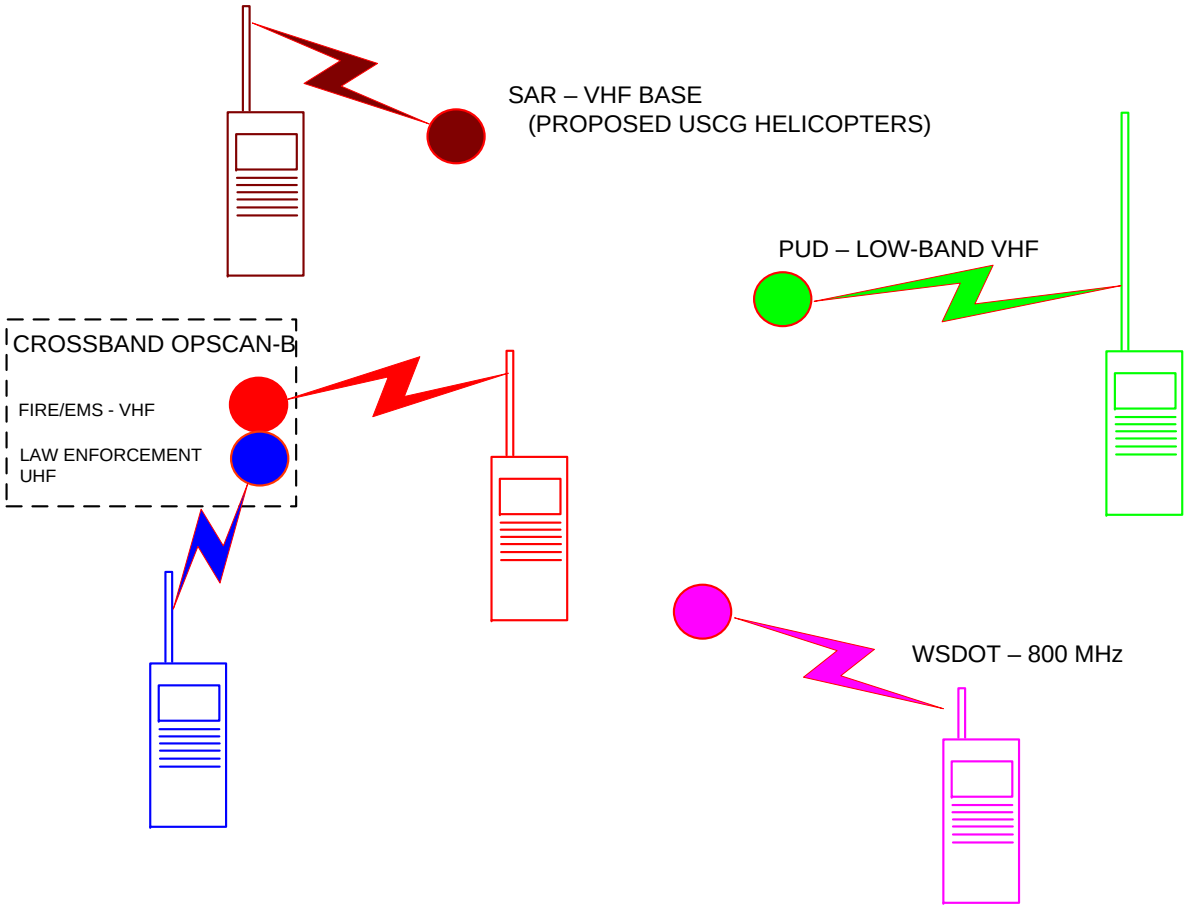
OPSCAN for ARES/RACES

Patching – The ability to connect control circuits of various radios so that they are connected into a common network. Accomplished on a PC-browser to make temporary connections.

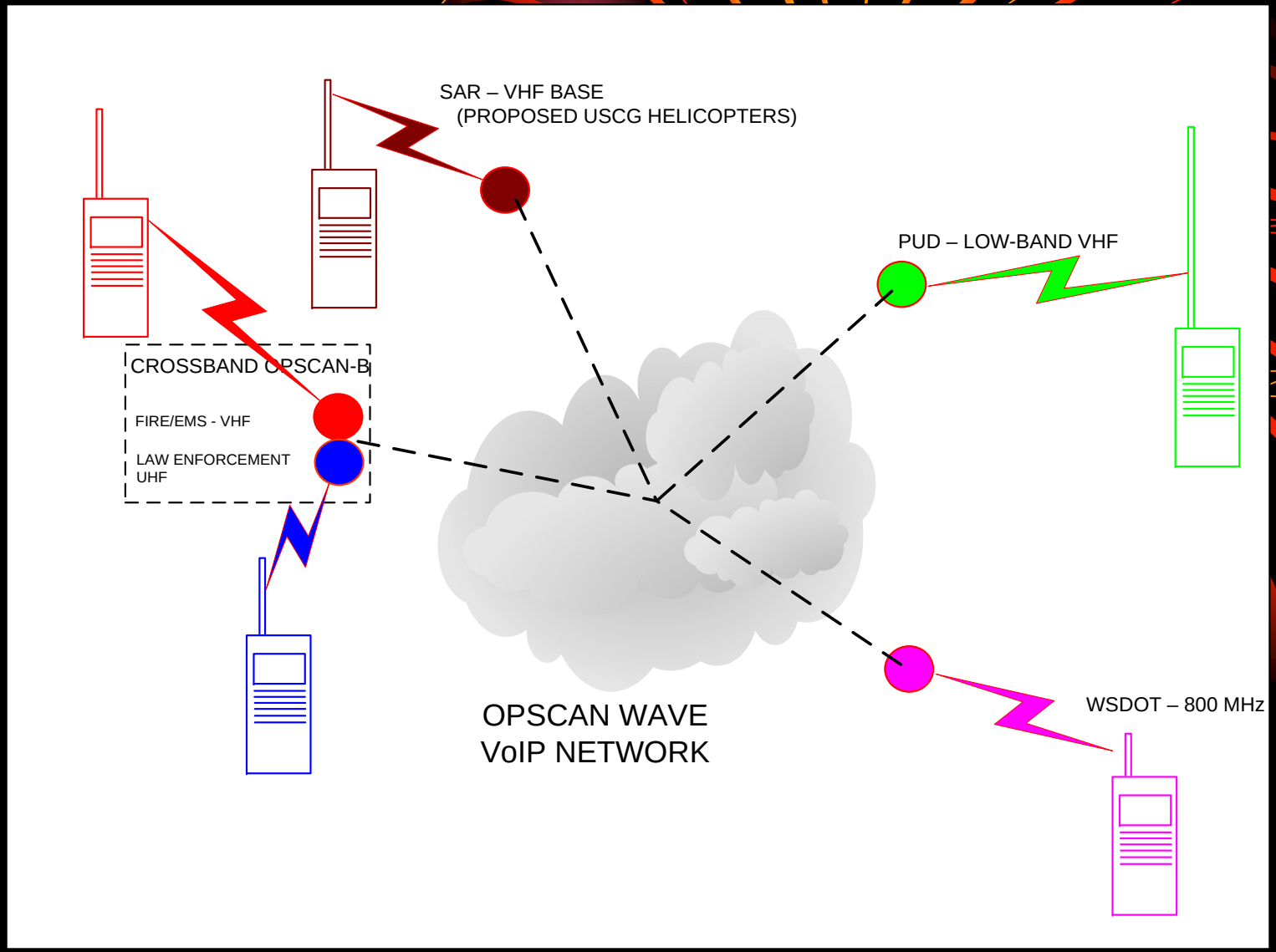
OPSCAN Interop / X-band



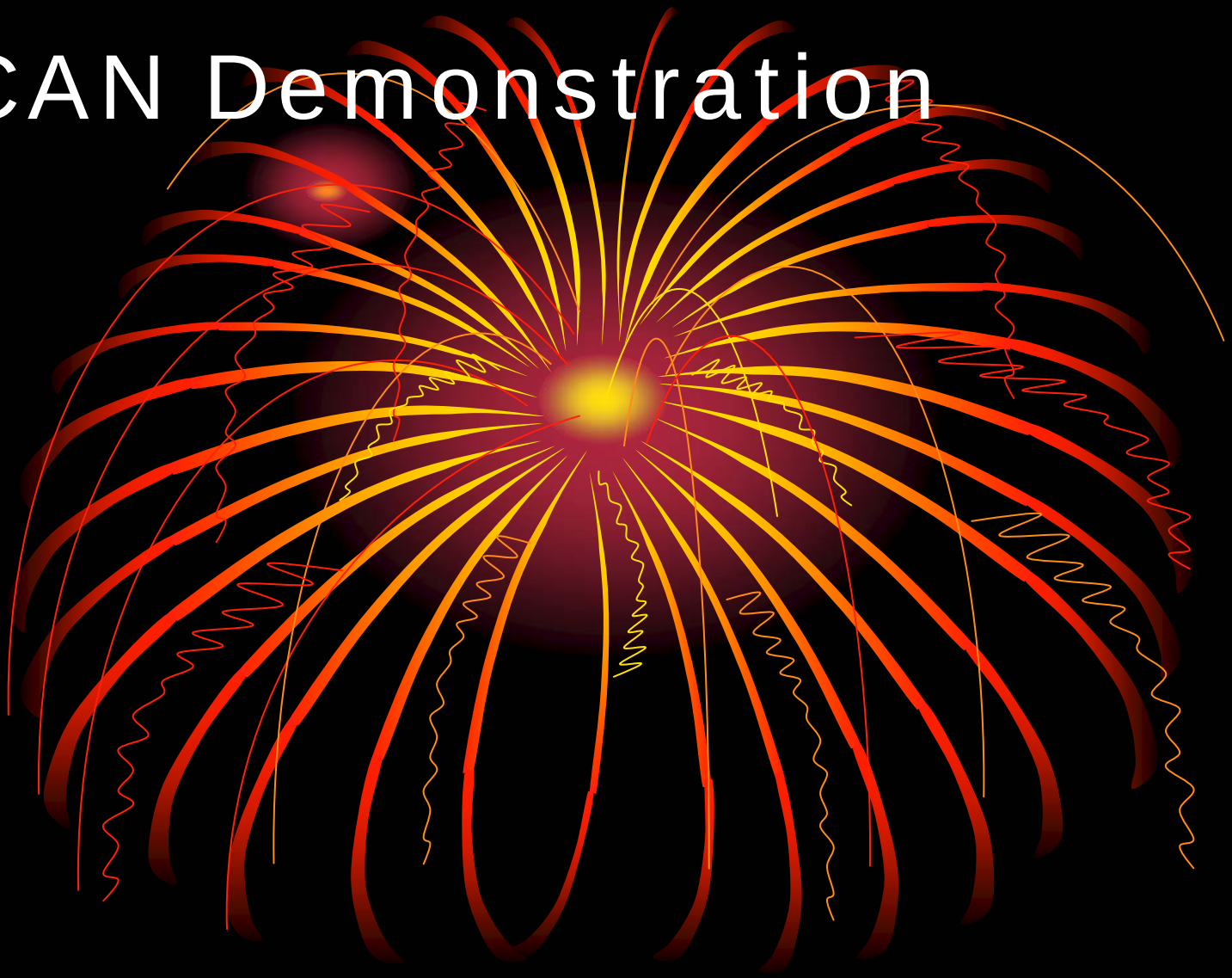
OPSCAN Interop / X-band



OPSCAN Interop / Patch



OPSCAN Demonstration



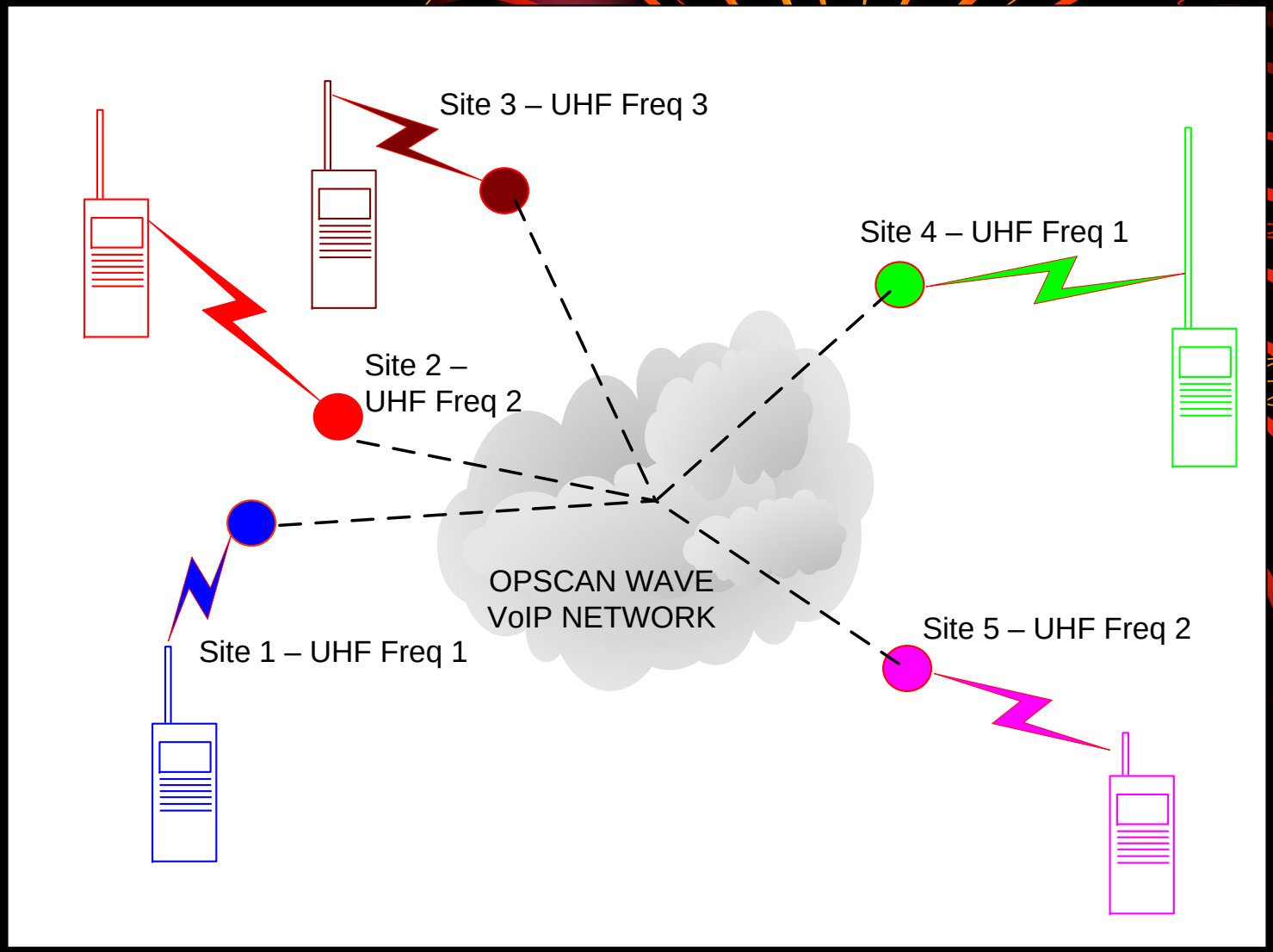
OPSCAN for ARES/RACES

So how can this capability be used and supported by ARES/RACES?

OPSCAN for ARES/RACES

Consider a chain of amateur-band repeaters linked by VoIP networking.

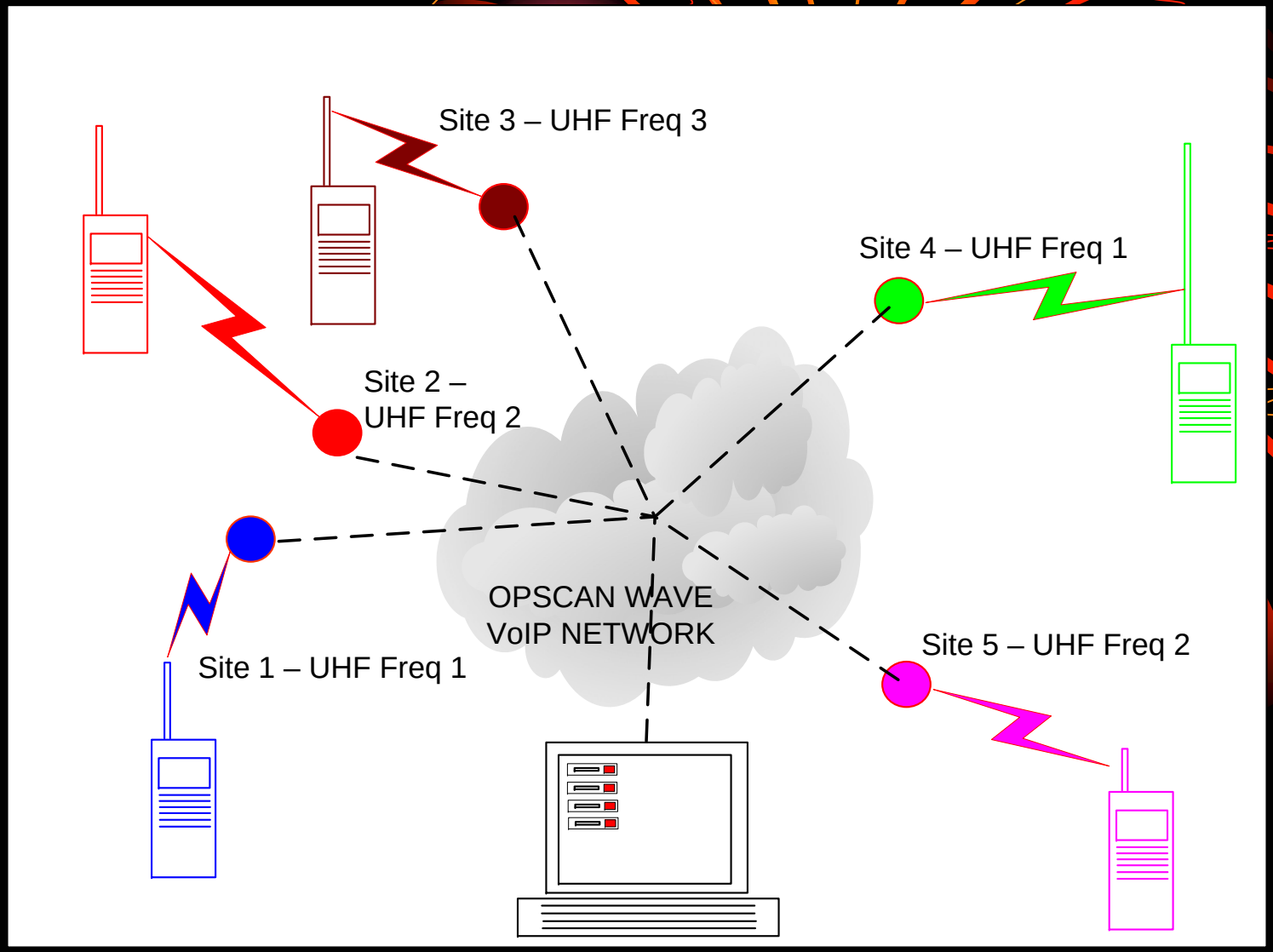
OPSCAN for ARES/RACES



OPSCAN for ARES/RACES

And then consider the ability to access this network from a computer at the EOC. It becomes an area-wide portable/mobile network with a professional console.

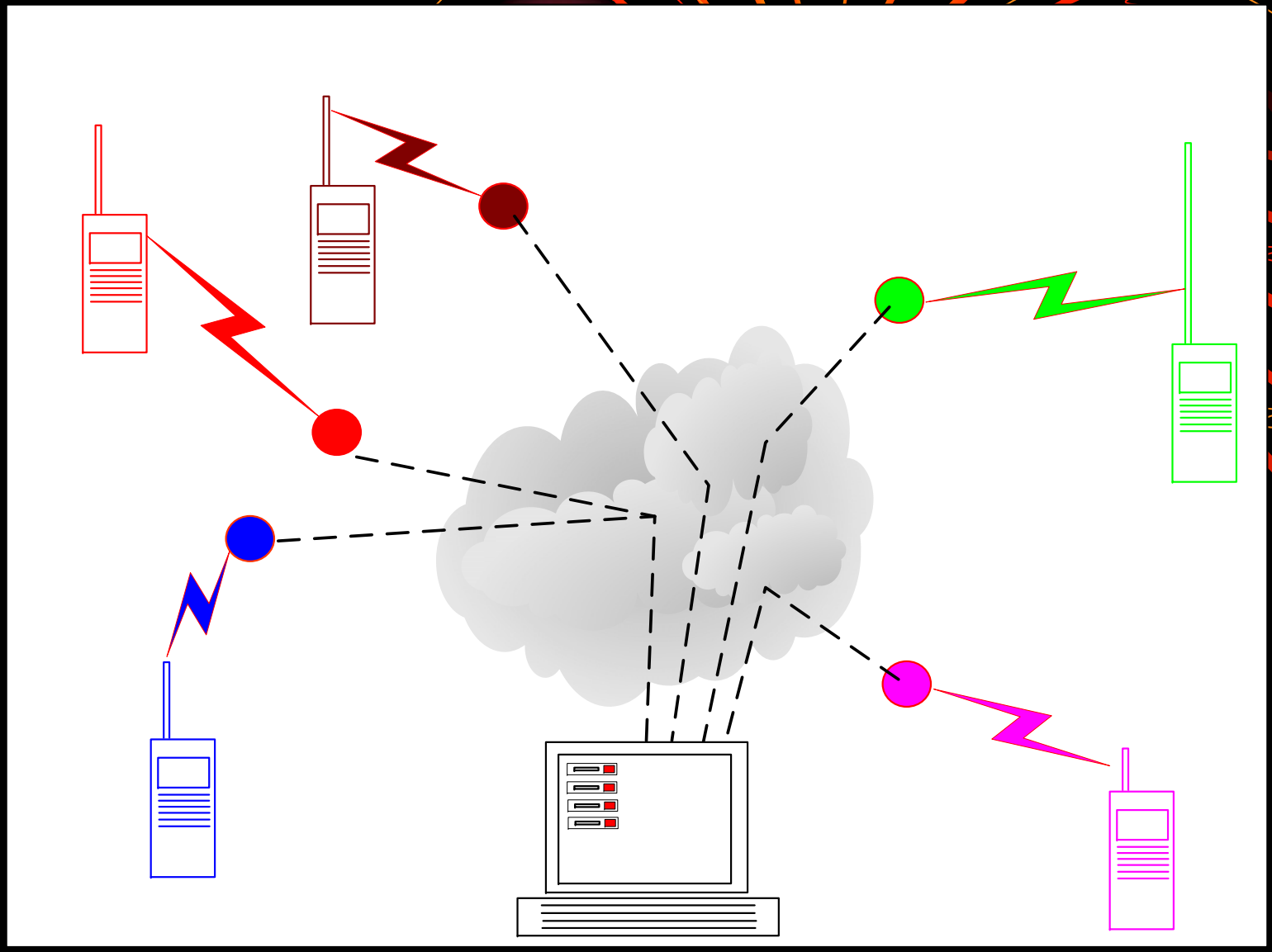
OPSCAN for ARES/RACES



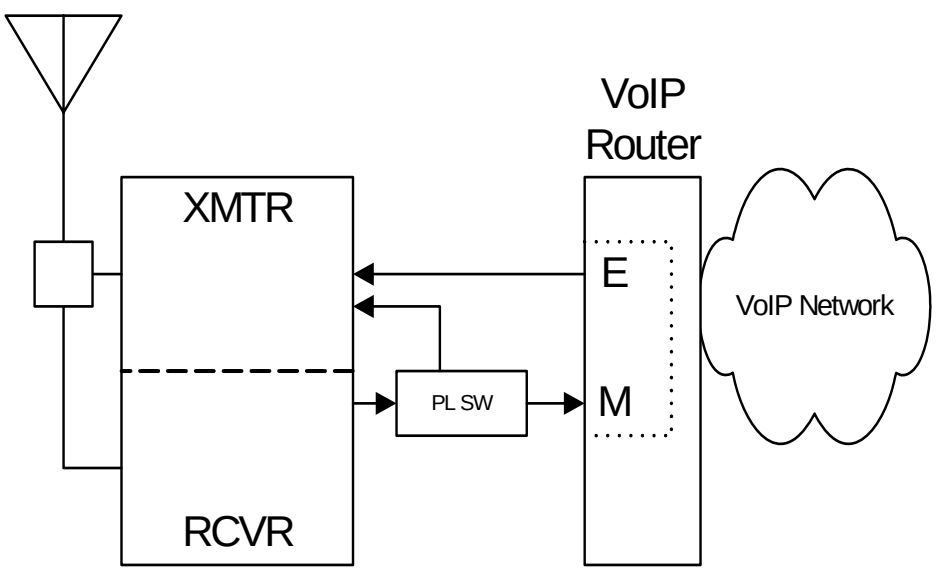
OPSCAN for ARES/RACES

And the network can be modified to provide separate coverages in respective areas, if needed.

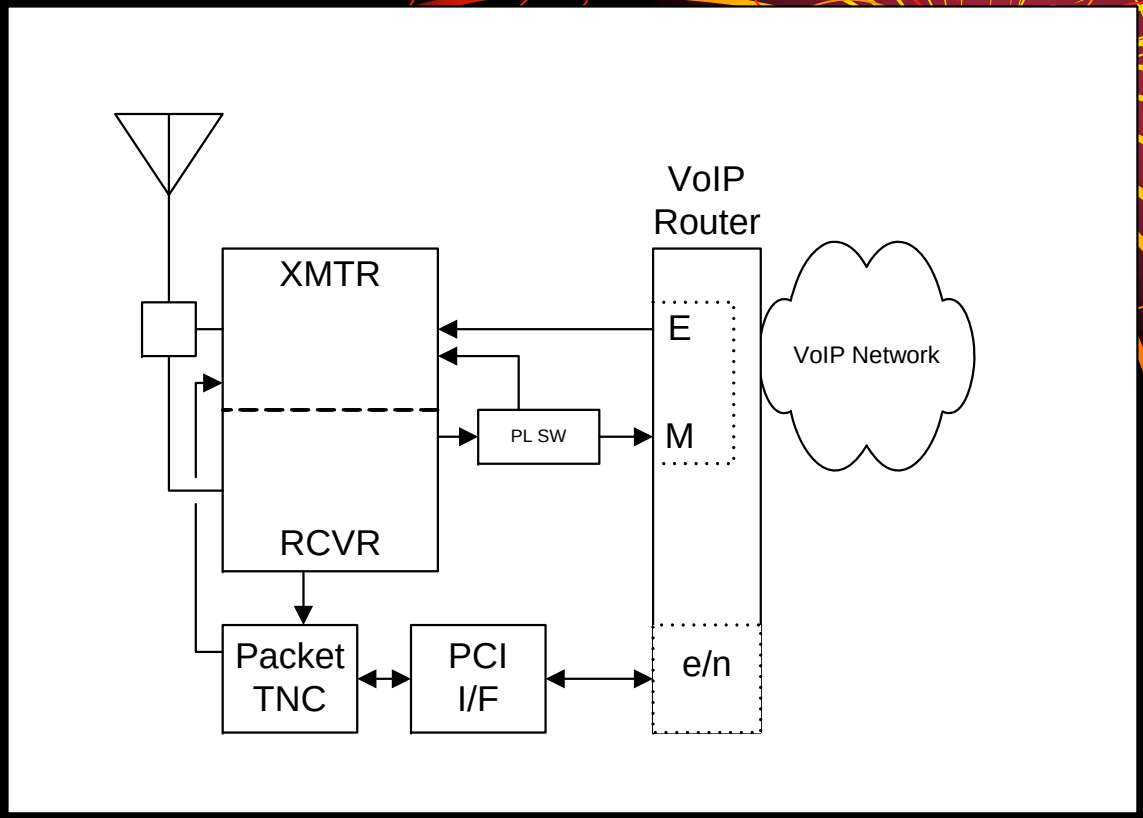
OPSCAN for ARES/RACES



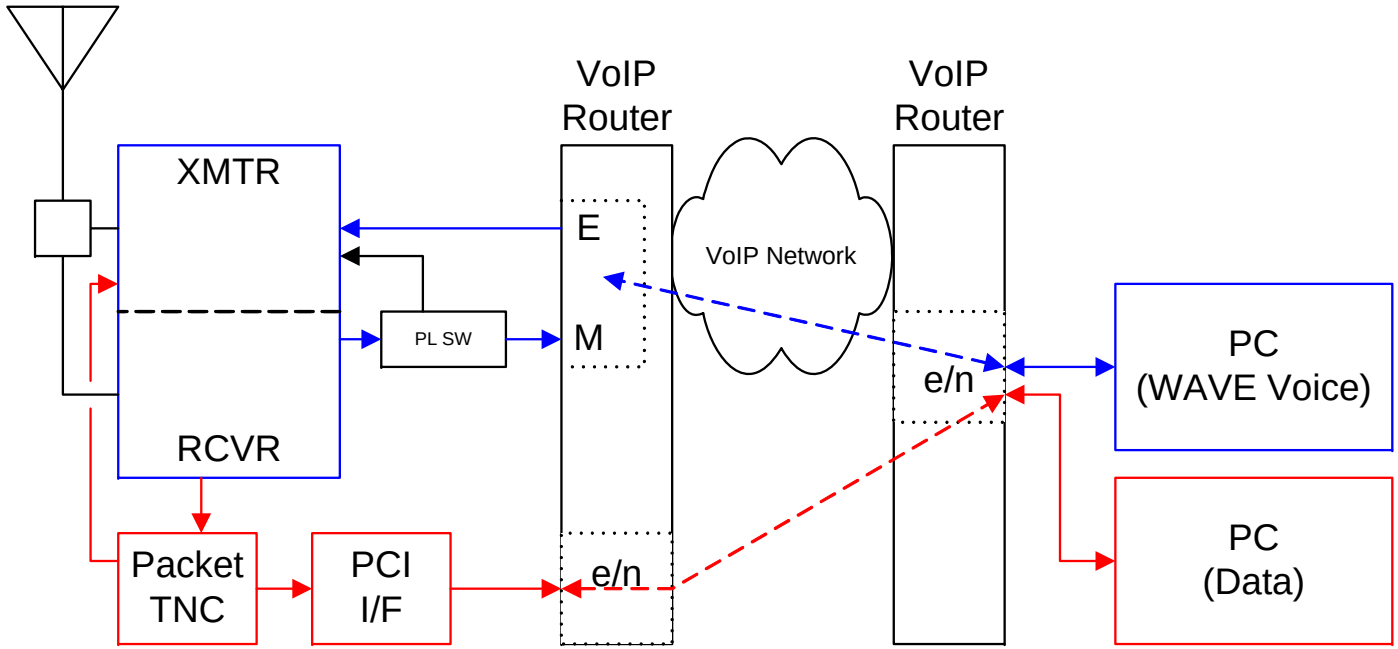
OPSCAN for ARES/RACES



OPSCAN for ARES/RACES



OPSCAN for ARES/RACES



OPSCAN for ARES/RACES

BAM!!!

OPSCAN for ARES/RACES

ARES in OPSCAN

Furthermore;

Emergency Communications functions can involve monitoring other public agency radios anywhere in the County.

ARES in OPSCAN

ARES Operators will be able to:

ARES in OPSCAN

ARES Operators will be able to:

- Monitor all radios in County

ARES in OPSCAN

ARES Operators will be able to:

- Monitor all radios in County
- Participate as “control” for non-responder radios

ARES in OPSCAN

ARES Operators will be able to:

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- Participate as “control” for non-responder radios
- Assist 911 centers with overload

ARES in OPSCAN

ARES Operators will be able to:

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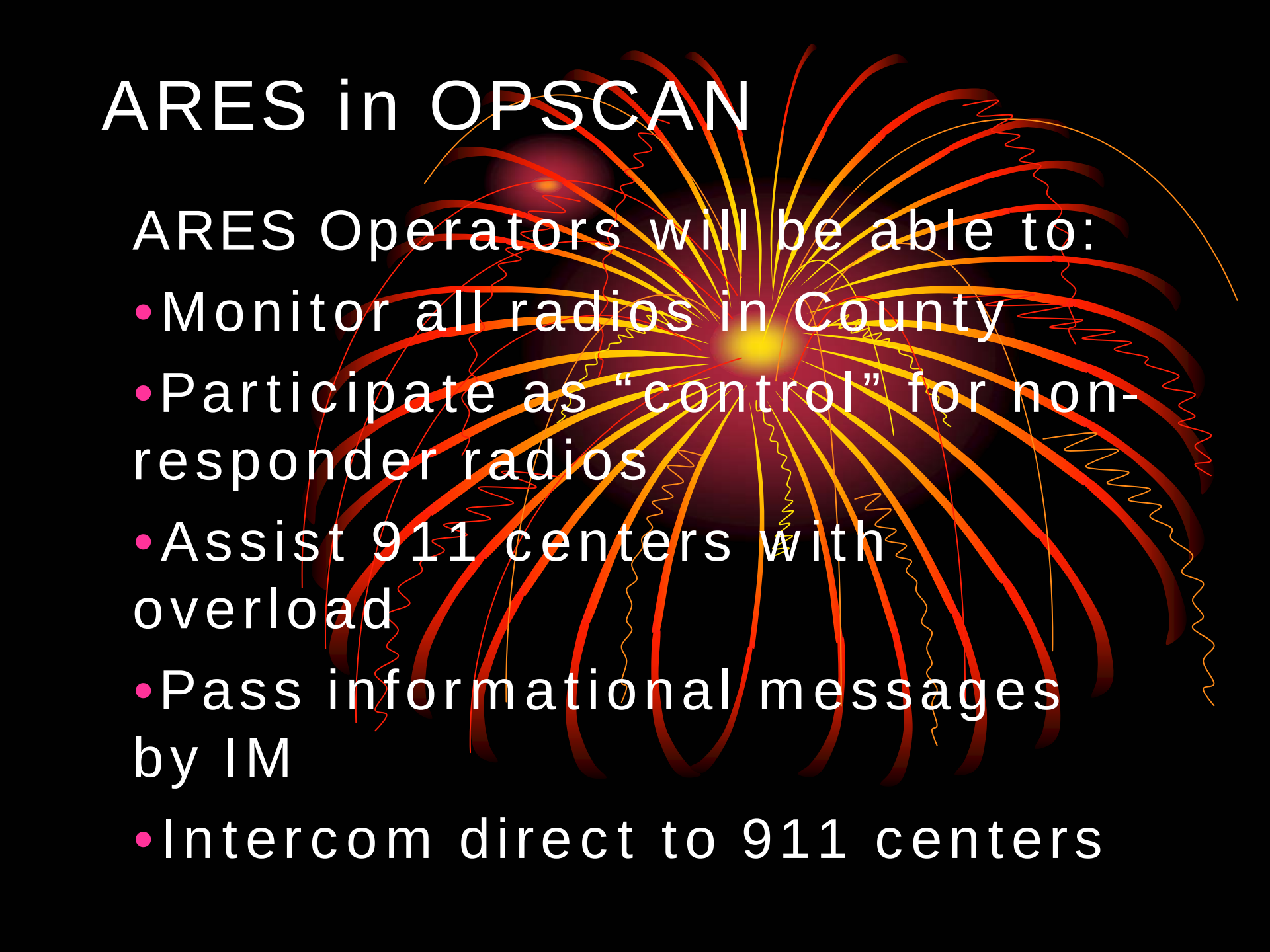
- Participate as “control” for non-responder radios
- Assist 911 centers with overload
- Pass informational messages by IM

ARES in OPSCAN



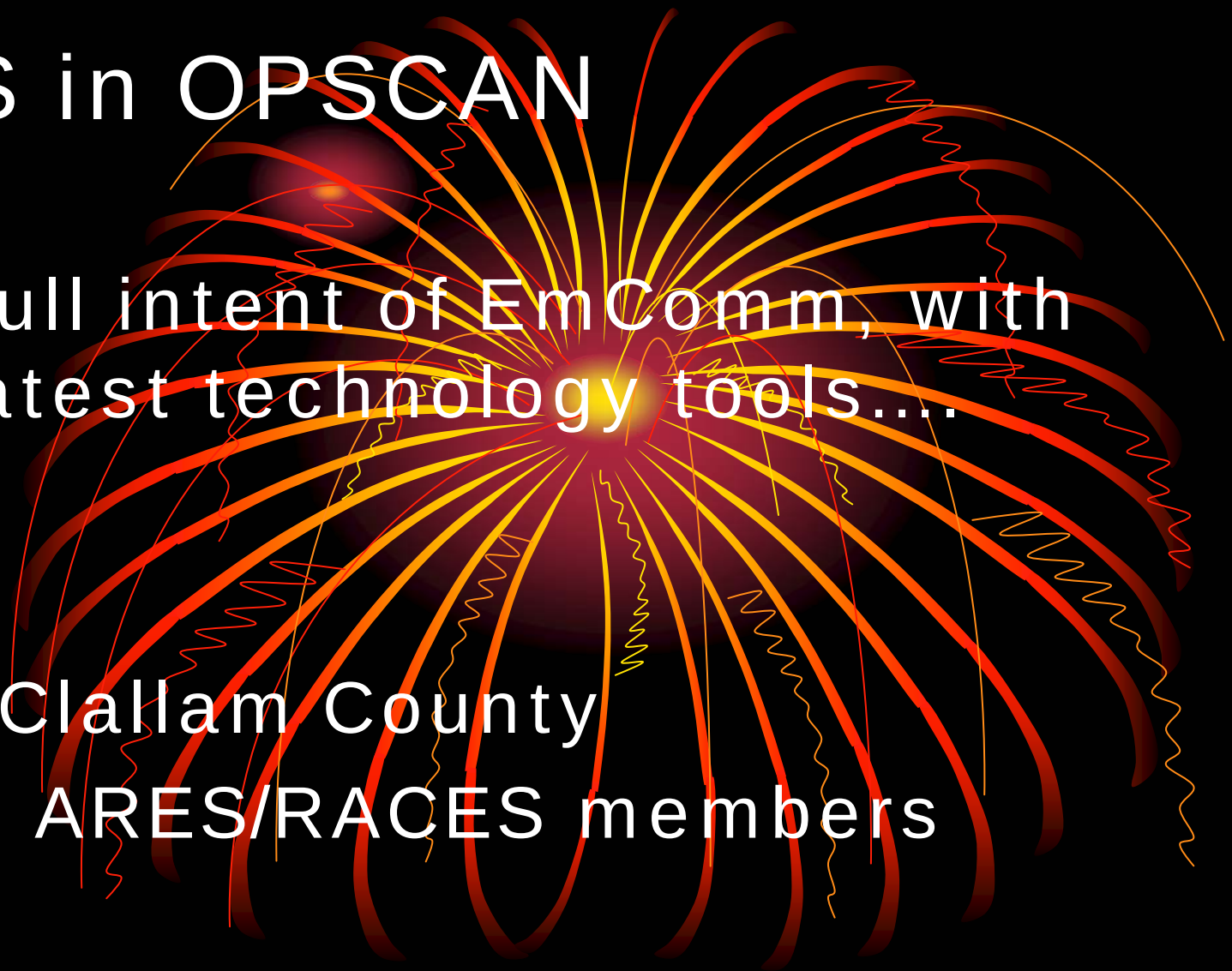
ARES Operators will be able to:

- Monitor all radios in County
- Participate as “control” for non-responder radios
- Assist 911 centers with overload
- Pass informational messages by IM
- Intercom direct to 911 centers

ARES in OPSCAN

Policies are currently being developed, and training is under way.

ARES in OPSCAN



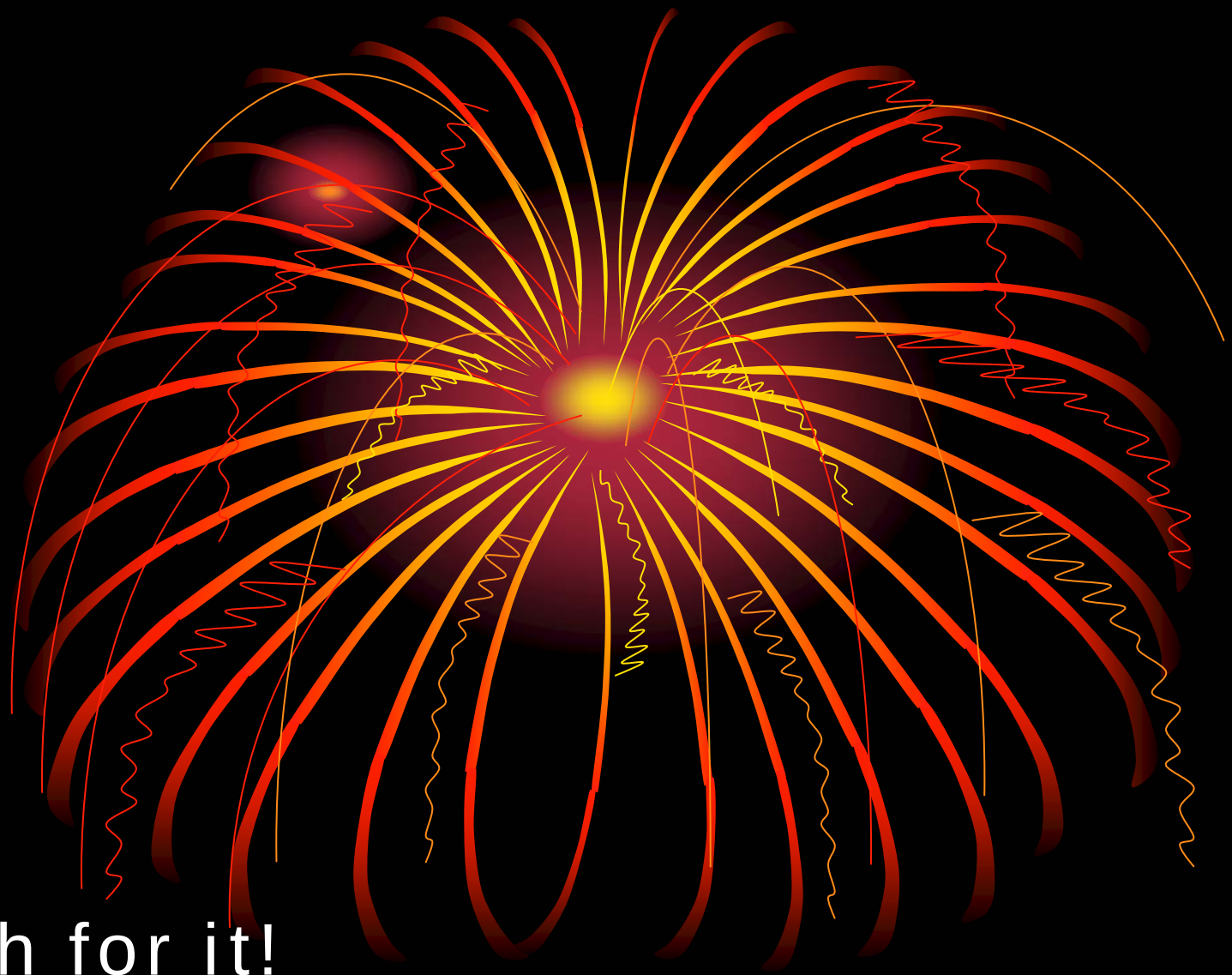
The full intent of EmComm, with the latest technology tools....

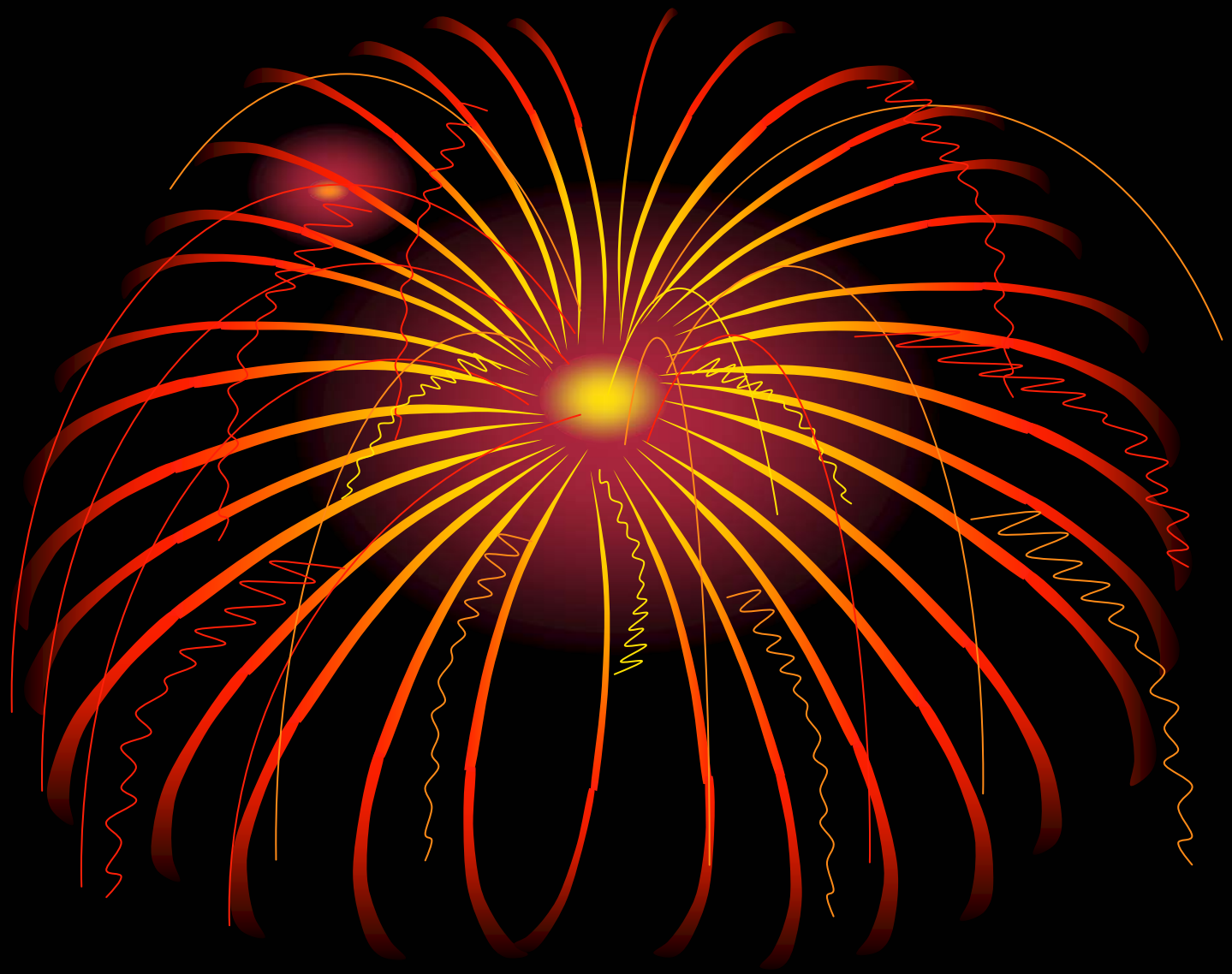
...for Clallam County ARES/RACES members

Coming soon……

…to a community near you.

VoIP Interoperable Communications



Watch for it!

Questions?